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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/701,334 | 11/04/2003 | Deborah Lewandowski Barclay | LUC-443/Barclay<br>6-44-5-6- | 4921 |

32205 7590 05/04/2007

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| EXAMINER | |
|---|---|
| LAM, DUNG LE | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2617 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 05/04/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/701,334 | BARCLAY ET AL. | |
| | Examiner | Art Unit | |
| | Dung Lam | 2617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on 2/5/07.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-27 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/5/07 has been entered.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims **1, 2-3, 6-10, 15 and 19-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Okagaki et al*** (US Pub. No. 2002/0032876) in view of **BMW2001** (BWM Owner's Manual for Vehicle, Part No. 01410156416, Oct-2001, page 22, Steering Wheel with Multifunction buttons) further in view of **Stulberger** (US Pub No. 2003/0064748).

3. Regarding ***claim 1 and 15***, **Okagaki** teaches a hands free system for operating a mobile terminal in a vehicle having an inherent steering wheel, comprising:

a processing module (Main Unit 1, Fig. 1) coupled to an integrated hands free mobile system module, the integrated hands free mobile system module detachably coupled to a wireless mobile terminal (para. 24 & 111) by a universal connector (Paragraphs 12, 14, 18, 97, 264, and 270 disclose that the main unit is connected by a USB connector, known as a universal cable that can interface with many different optional peripheral devices. Since main unit are connected to the mobile via a cable, it is detachably coupled to a mobile device); ***Okagaki*** teaches that the telephone system 6 controls the function of an automotive telephone, so as to enable conversation through a handset 6b and a telephone antenna 6a, via a wireless telephone circuit such as of mobile or cellular phone ([0111]). Because the phone unit is connected to the main unit by a USB cable, it means the phone is removable by the user. And ***Okagaki*** further teaches a stereo operatively connected to the processing module (speaker, para. 4, 22, 24, and 81, Fig. 1); a display operatively connected to the processing module for displaying information relative to the connected mobile terminal (para. 106 and 245); an audio input device operatively connected to the processing module (microphone para. 22 and 80-83); ***Okagaki*** further teaches that the integrated handsfree system module having functionality to implement a signaling protocol for the universal connector ([0096, 12, 14, 18, 97, 264, and 270]).

However, ***Okagaki*** do not explicitly teach a switch located on the steering wheel operatively connected to the processing unit. In another analogous art, **BMW2001**, teaches a switch in a multifunction steering wheel to allow users to operate the phone quickly with both hands on the wheel. Therefore, it would have been obvious for one of

ordinary skill in the art at the time of the invention to place the switch on the wheel to allow the drivers to steer the wheel and operate the phone functions on the steering wheel simultaneously without taking his eyes off the wheel, which is safer.

Howerver, **Okagaki and BMW2001** do not explicitly teach a switch located in a predetermined area of the steering wheel and the audio input device mounted substantially in a center area of the steering wheel of the vehicle. In an analogous art, **Stulberger** teaches a microphone to be placed in the center of the steering wheel ([0039, 0098, 0121], microphone 48). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to place the microphone in the center of the steering wheel to have optimum clarity as taught by Stulberger in paragraph 0039.

Stulberger further reinforced the teaching of a wireless telephone which can be any standard cell phone ([0136], 84 in Fig. 19) being used with the hands-free system integrated with a car. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to realize that the concept of having a user removable phone is known in the art at the time of the invention of this present invention.

4. Regarding **claim 2**, Okagaki, BMW2001 and Stulberger teach the hands free system according to claim 1. Okagaki further teaches that the audio input device is a microphone (Col. 5, para. 81).

5. Regarding **claim 3**, Okagaki, BMW2001 and Stulberger teach the hands free system according to claim 1. Okagaki further teaches that the stereo comprises at least an audio amplifier operatively connected to at least one speaker (Col. 5, para. 81).

6. Regarding **claim 6**, Okagaki, BMW2001 and Stulberger teach the hands free system according to claim 1. Okagaki further teaches that the hands free system further comprises a display operatively connected to the processing module for displaying information relative to the connected mobile terminal (LCD screen, Col. 2, para. 32 and para. 245).

7. Regarding **claim 7 and 18**, Okagaki, BMW2001 and Stulberger teach the hands free system according to claims 1 and 15 respectively. Okagaki further teaches that the displayed information is downloaded information that is used by the mobile terminal (para. 218 and para. 245).

8. Regarding **claim 8 and 19**, Okagaki, BMW2001 and Stulberger teach the hands free system according to claims 1 and 15 respectively. BMW2001 further teaches that the switch is a toggle-type switch, and wherein each toggle of the switch is an indication to proceed to the next stage in call handling by the mobile terminal (press briefly to accept a call or terminate a call or activate or deactivate voice entry, page 22).

9. Regarding **claim 9 and 20**, Okagaki, BMW2001 and Stulberger teach the hands free system according to claims 1 and 15 respectively. Okagaki further teaches that the processing module is structured for at least one of: to mute the audio input device, to connect the audio input device to a voice input processor of the mobile terminal when a call is connected (Col. 5, para. 81), to connect an earpiece amplifier output of the mobile terminal to an amplifier input of the stereo when a call is connected, to connect a preamplifier output of the stereo to the audio input of the stereo when a call is not connected or being setup, to connect the preamplifier output of the hands free mobile system to the audio input of the when the call is being setup, to store telephone numbers and associate them with spoken tokens (col. 16, para. 16), and to prompt a user to provide phone numbers to dial.

10. Regarding **claim 10 and 21**, Okagaki, BMW2001 and Stulberger teach the hands free system according to claims 1 and 15 respectively. Okagaki further teaches that the processing module further comprises a voice recognition module for at least converting spoken numbers into digits, and spoken words into tokens associated with a memory location in a memory in the processing module (col. 16, para. 16). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to add the voice activation to minimize movement of pressing the buttons and thus increase the driver's safety.

11. Claims **4, 14,16 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okagaki, BMW2001 and Stulberger further in view of **Chen** (US Patent No. 6411823).

12. Regarding **claim 4 and 16**, Okagaki, BMW2001 and Stulberger teach the hands free system according to claims 1 and 15 respectively. However they fail to teach that the processing module is detachably coupled to the mobile terminal via a cable having a universal connector that interfaces to a plurality of different mobile terminals. In an analogous art, Chen teaches a universal cable which allows the system to be compatible with more devices (Col. 3, line 66 – Col. 4, line 6). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to add Chen's universal connector to the hands-free system to become more marketable by being compatible with a variety of mobile phones.

13. Regarding **claim 14 and 25**, Okagaki, BMW2001 and Stulberger teach the hands free system according to claims 1 and 15 respectively. Chen further teaches the processing module is structured to send digits to be dialed to the mobile terminal via the cable (Col. 3, lines 46-52).

14. Claims **5, 11-12, 17, 23 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okagaki, BMW2001 and Stulberger and further in view of **Eiche** (US Publication No. 2002/0137505).

15. Regarding **claim 5 and 17**, Okagaki, BMW2001 and Stulberger teach the hands free system according to claims 1 and 15 respectively. However they fail to teach that the processing module is structured to give priority to a signal from the mobile terminal over any other signal in the stereo. In an analogous art, **Eiche** teaches that it is desirable to mute other audio sources in the vehicle when a there's an incoming call (para. 7). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to add Eiche teaching of muting other audio sources to the hands-free system to reduce the surrounding noise and increases the sound quality for the phone user.

16. Regarding **claim 11 and 22**, Okagaki, BMW2001 and Stulberger teach the hands free system according to claims 1 and 15 respectively. However they fail to further teach that the hands free system further comprises a PC serial port connector for interfacing the processing module to a personal computer. Eiche teaches a connector to interface with a variety of external devices including a PC (interface 348, para.47). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to add the interface to enable convenient means of transferring data from/to other external devices.

17. Regarding **claim 12 and 23**, Okagaki, BMW2001 and Stulberger and Eiche teach the hands free system according to claims 11 and 22 respectively. Okagaki

further teaches that the personal computer has a phone directory, wherein the processing module has a phone directory, and wherein the phone directory in the processing module is synchronizable with the phone directory (para. 213 and para. 218). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to add the synchronization program into the hands free system to provide a fast and convenient means for mobile device users to update their data on all the devices.

18. Claims **13 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okagaki, BMW2001 and Stulberger in view of **Eiche** (US Publication No. 2002/0137505) and further in view of Ju (US Publication No. 2005/0015516).

19. Regarding **claims 13 and 24**, Okagaki, BMW2001, Stulberger and Eiche teach the hands free system according to claims 11 and 22 respectively. However, they fail to teach that the personal computer has a synchronization program, wherein the processing module has a synchronization program, and wherein the synchronization program in the processing module is updateable with the synchronization program in the personal computer via the PC serial port connector. In analogous art, Ju teaches an application that allows synchronizations between mobile devices and a PC (para. 007). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to add the synchronization program into the handsfree

system to provide a fast and convenient means for mobile device users to update their data on all the devices.

20. Claims **26 and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okagaki, BMW2001 and Stulberger and further in view of **Kashiwamura** (US Publication No. 2002/0016188).

21. Regarding **claims 26 and 27**, Okagaki, BMW2001 and Stulberger teaches all the elements of the hands free system (see claim 1 above) comprising the steps of:

(a) initially placing a hands free system in a vehicle in an idle state (it is an inherent for most phone system to be at idle state initially);

(b) determining if a predetermined switch has been toggled (inherent in BMW switch, page 22);

(c) returning to step (a) if the switch has not been toggled, and muting the amplifier and turning on the microphone if the switch has been toggled;

(d) collecting digits using voice recognition or determining the stored numbers to be dialed based on a voice token (see claim 10);

(e) determining if the switch has been toggled;

(f) returning to step (d) if the switch has not been toggled, and playing sounds for the numbers to be dialed via the amplifier and displaying the numbers on the display (claim 6) ;

(g) determining if the switch has been toggled;

(i) if the switch has been toggled, sending dialed numbers to a wireless mobile terminal that is user removable from the vehicle, connecting an earpiece amplifier output of the mobile terminal to the amplifier of the vehicle sound system, connecting the microphone preamplifier output of the hands free mobile system to a voice input processor of the mobile terminal (claim 9);

(i) dialing a number at the mobile terminal (inherent step in a phone call);

(k) connecting a call (inherent step in a phone call);

(l) maintaining call connection (inherent step in a phone call);

(m) determining if the switch has been toggled (inherent step in a phone call);

(n) returning to step (l) if the switch has not been toggled, and returning to step (a) if the switch has been toggled (inherent step in a phone call).

The above steps are all taught either inherently or addressed in previous claims except for the sequence of toggling and an idle state after a predetermined timer expired. However, BMW teaches a toggling switch to activate and deactivate voice recognition purpose or turning on a radio or phone option. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to add this toggling sequential steps with the hands free system to provide a simple to operate procedure for the user. They also fail to teach step (h) starting, if the switch has not been toggled, a timer and when a predetermined timer has expired returning to the idle state, and until then returning to step (g); In an analogous art, Kashiwamura teaches that the power of an electric circuit is cut off periodically to save power (Col. 5, para. 57). Therefore, it would have been obvious for one of ordinary skill

in the art at the time of the invention to add a transition to the system to an idle state to save energy consumption.

### *Response to Arguments*

Applicant's arguments with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection.

## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Lam whose telephone number is (571) 272-6497. The examiner can normally be reached on M - F 9 - 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DL

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